

# NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, May 4, 2001

Vol. 26, No. 18

## Amber waves bring cooler temps

By Anne M. Stark  
PUBLIC AFFAIRS

Researchers in the Lab's Atmospheric Science Division have demonstrated a cooling of up to 2-degrees Fahrenheit over land between 1000 and 1900 AD as a result of changes from natural vegetation, such as forests, to agriculture.

Through climate model simulations, the research team made up of Bala Govindasamy, Ken Caldeira and Philip Duffy determined that a previously recognized cooling trend up to the last century could, in part, be attributed to the land-use change.

Previous studies had attributed cooling to natural climate variations. The Livermore research, however, suggests that much of this cooling could have been the result of human activity.

Forests tend to look dark from the sky, but agricultural lands, with their amber waves of grain, tend to look much lighter. Dark colors tend to absorb sunlight and light colors tend to reflect sunlight back out to space. Changing from forests to



Agricultural lands tend to reflect sunlight, which helps cool the Earth.

crops results in more sunlight reflected back to space. This reflection of solar energy to space tends to cool the earth, especially in regions such as the Eastern and Midwestern United States, where huge tracts of land have been converted to crops. In the 20th century, some of this cropland has been reverting back to forest, especially in the eastern United States.

Greenhouse gas emissions in the 20th century likely overcame any cooling trends that took place up to that time. Growing more trees has been suggested as

See **COOLING**, page 8

## Stanford-Lab team concludes North Korea's framework compliance can be verified

A joint Stanford University-Laboratory team of scientists, nuclear engineers and arms control experts has concluded in a new study that North Korea's compliance with the 1994 Agreed Framework can be verified to a satisfactory degree of accuracy.

Special effort will be needed, however, from the International Atomic Energy Agency (IAEA), as well as support from the United States, the Republic of Korea (ROK), Japan and perhaps other countries. Most importantly,

See **FRAMEWORK**, page 8

## Powell earns posthumous distinction of optical fellow

By Gordon Yano

PUBLIC AFFAIRS

Howard Powell, a longtime Lab laser researcher who died last November, has been elected a fellow of the American Optical Society. This is the first time in the society's history that fellowship has been bestowed posthumously.

Powell was recognized by the society "for seminal contributions to the research and development of high-energy, high-peak-power, and high-average-power



Howard Powell

See **POWELL**, page 8

## Testimony headline in last week's Newsline incorrect

The headline in last Friday's *Newsline* (4/27) concerning Director Bruce Tarter's Senate testimony was incorrect. The correct headline should have read: *Tarter says FY2002 budget could hinder threat reduction work.*

During his testimony, Tarter thanked Congress for continued support in stockpile stewardship efforts. Tarter's complete testimony is on the Web at [http://www.llnl.gov/director/testimony/SASC\\_4-25/](http://www.llnl.gov/director/testimony/SASC_4-25/)

## Congressman spotlights Asian contributions to government

Congressman Robert Underwood of Guam will present "Celebrating the Contributions of Asian Pacific Americans in Federal Government" from 10-11 a.m. Monday, May 7, in the Bldg. 123 auditorium.

Underwood has taken leadership on issues important to the Asian American and Pacific Islander community. For the 106th Congress, he served as chair of the Congressional Asian Pacific Caucus and is still currently active within the caucus. He has held briefings on health issues, racial profiling at the Department of Energy labs and the educational conditions of the national Asian Pacific American community.

His leadership has led to the inclu-

sion of Pacific Islanders and permanent legal residents in the Gates Millennium Scholarship program, renewed attention to the Asian Pacific American community by the College Board and was instrumental in the formation of the President's Council on Asian Americans and Pacific Islanders.

Following an impressive career as an educator, beginning as a high school teacher in 1972 and culminating with the academic vice presidency of Guam's university, Underwood was first elected to the



Robert Underwood

U.S. House of Representatives in 1992.

The Asian Pacific American Heritage Month presentation is sponsored by the Affirmative Action and Diversity Program (AADP) and the Asian Pacific American Council. All employees are invited to attend.

For more information, check the Web:

<http://www.house.gov/underwood/welcome.html>



Author to discuss  
'new McCarthyism'

— Page 3



How to gain most  
from the internet

— Page 5



Careers options  
with class

— Insert



## LAB COMMUNITY NEWS

### Weekly Calendar

Technical Meeting Calendar, page 4

Friday  
**4**

Amigos Unidos Employee Networking Group is sponsoring a **Cinco de Mayo fiesta** from 11:30 a.m. to 1 p.m. near the pool area.

Trio Cancun Seniorial will perform mariachi music. All pre-ordered tamales will be available for pick-up during the fiesta. Tamales will also be offered for sale for \$14/dozen and \$7.50/half dozen. Traditional Cinco de Mayo lunch plates with a soft drink will be available for \$6.50 and will include chile colorado, carnitas or a tamale plate with rice and beans. All proceeds from the sales will go to the Amigos Unidos scholarship fund.

Wednesday  
**9**

**Guitarist Lawrence Juber** will perform a benefit concert at Livermore High School at 7 p.m. Tickets are \$12; children under 12

are free. Proceeds from the concert will benefit Guitars in the Classroom, Livermore Education Foundation and the Michael Gordon Memorial Scholarship. For more information, go to [www.fretted-friends.com](http://www.fretted-friends.com).

Thursday  
**10**

U.S. Savings Bonds, Series EE are available to Lab employees by payroll deduction. Series EE bonds are Treasury securi-

ties that earn interest at market-based rates for up to 30 years. The purchase price of a bond is 50 percent of its face amount. To learn more about this UC savings option, you are invited to attend a special presentation given by Diana Louie, U.S. Treasury Department representative, at noon in Bldg. 571, conference room 2301.

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EODD is offering briefings to help employees and supervisors/managers prepare for the **performance appraisal process**. The employee briefings will provide an overview of the performance appraisal process, suggestions for input and tips for the appraisal discussion. They will be held in the Bldg. 361 auditorium Thursday, from noon-1 p.m.; Friday, from 10-11 a.m.; and Wednesday, May 30, from noon-1 p.m. Workshops for supervisors and managers will be offered in Bldg. 571, room 1335 on Tuesday, May 15 from 10 a.m. to 12:30 p.m. and Friday, May 18, from 12:30-3 p.m. Contact: Gina Gustafson, 3-6663.



Employees interested in learning more about the **CalPERS Long-Term Care Program** are invited to a special presenta-

tion at noon Monday, May 14, in the Bldg. 543 auditorium. The CalPERS Long-Term Care Program is available to UC employees. An informational video regarding the program is available for checkout in the Benefits Office, located in Bldg. 571, room 1205. Individuals interested in viewing the video may call Benefits at 2-9955 to verify availability. For more information, visit the Benefits Office Website at <http://www.llnl.gov/jobs/benefits>.

## Retirees traveling the world over

By Bob Becker

LLNL RETIREE

Alice and Tony Schwarber are always off to interesting places. I think that Alice must have caught the travel bug in spending those many years in the Lab's Travel Department. This year, they flew to Devil's Island (and it is not recommended for your travel adventures). The trip included a 1,000-mile cruise up the Amazon to Manaus. The Amazon is so silted that it looks like you could walk on it.

...

Just so that all retirees are aware, the LLNL retirees have a Web site, located at <http://www.llnlretires.org>. **Dick Hatfield** (Mechanical Engineering and the Budget Office) is president of the Retirees Association this year and he can be contacted [DickH@home.com](mailto:DickH@home.com).

...

**Ted Hamm** (Electrical Engineering) has changed his e-mail address of 12 years to [TheodoreHamm@compuserve.com](mailto:TheodoreHamm@compuserve.com)

...

**Gordon Repp**, a physicist at the Lab with the record of the longest standing ride pool from Danville, sent me his Christmas letter and it sounds like he and Nancy are leading an active retirement life. Last year included a trip to South Africa, Botswana, Kenya, Zimbabwe and then to Egypt. Gordon is chairman of the property commission at his church, which keeps him busy. They squeezed in a trip to Asilomar with the Phi Beta Kapa organization, a trip in July in the Nevada desert, Zion Park and Valley of Fire State Park. They barely caught their breath and off they went to Olympia, Wash. This was followed by the highlight of the year: their 50th anniversary,

attended by 95 friends and family. An anniversary trip included Australia and New Zealand. Quite a busy year.

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For some of you retirees who have missed the monthly luncheons, here is a brief description of what some of our outstanding speakers have covered. A few of the speakers in the past have included Leland W. Younker, Dennis Mathews, Susan Gallinger, and Ralph Dennard, director of the San Francisco Hearing Dog Program. In

March, our speaker was Graham "Des" Desvernine, one of the FBI's primary undercover agents and a contributor in solving the trailside killer case. His interaction with mafia and his account of an attempt by a foreign government to purchase Navy torpedoes was truly fascinating. The luncheons are held every third Wednesday of the month at the Cattlemen's Restaurant. Call Hugh Wilson, 455-6828, Pauline Floyd, 449-8594, or Barbara Hill, 447-3033, for further information.

...

**Darrel Jackson**, who retired in 1990, lives in Prineville, Ore. He can be reached by e-mail at [deekjac@cascade.quik.com](mailto:deekjac@cascade.quik.com). He would like to hear from you.

...

I hope that I haven't mislaid some of the input from retirees. My wife Ginger and I just returned from a trip to Paradise Island in the Bahamas. It was truly spectacular at the Atlantis Hotel, with great aquariums holding over 30,000 fish. We plan to leave for a three-week trip to China on May 15.

...

Keep the letters coming: Bob Becker, 1690 Frederick Michael Way, Livermore, 94550, 925-447-3867, or [rbbecker@aol.com](mailto:rbbecker@aol.com)

## Radiation safety booklets mailed to all employees

General Employee Radiological Retraining (GERT) booklets were mailed this week to all employees who have active L-codes.

This booklet provides general information about radiation and the controls LLNL implements to ensure the safety of workers, visitors, and the environment.

GERT is initially provided as part of new employee orientation for LLNL and supplemental labor employees. Reading this booklet satisfies the biennial retraining requirement.

If you were monitored for radiation exposure during the year 2000, you will also be receiving an annual radiation dose report. This annual dose report is provided to all monitored LLNL workers, regardless of whether they received a dose.

An explanation of the annual radiation dose report is included inside the GERT booklet.

For more information, contact the ES&H Team health and safety technician assigned to your facility.

## Pleasanton middle school seeks judges for science fair

Harvest Park Middel School in Pleasanton is holding its annual science fair on Thursday, May 10, and is still in need of project judges.

The fair will be held from 8:30 a.m. to 12:30 p.m. Lab employees from all scientific disciplines are welcome.

For more information or to volunteer, contact Scott Wilson of the Public Affairs Office at 3-3125 or [wilson101@llnl.gov](mailto:wilson101@llnl.gov)

## IN MEMORIAM

### Ralph Kellner

Ralph Kellner, a former mechanical engineer at the Lab, died Jan. 16 at the age of 94.

Kellner was born and raised in Berkeley. Prior to joining the Lab, Kellner was employed by Pan American Engineering in Berkeley and Placer Development, San Francisco and Bogota, Columbia.

Kellner joined the Lab in 1953 as a liaison at test sights in Nevada and the South Pacific, as well as at Oak Ridge and Los Alamos laboratories. He retired in 1973.

He was a member of the Masonic Lodge for 50 years.

Survivors include his wife of 62 years, Vivian; son, Eric of Danville; daughter, Marna Garriety of San Ramon; and three granddaughters.

Burial services were held at Mountain View Cemetery in Oakland.

## Newsline

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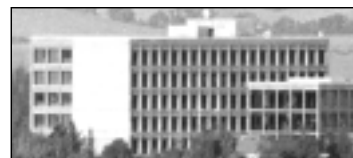
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Web site: <http://www.llnl.gov/PAO/Newsstand/internal-comm.html>



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## AROUND THE LAB



## Author Iris Chang to discuss the 'new McCarthyism'

Author Iris Chang will present "Tsien Hsue-shen and Wen Ho Lee: the New McCarthyism," as part of Asian Pacific American Heritage Month. Chang's talk takes place at noon Thursday, May 31, in the Bldg. 543 auditorium, and is sponsored by the Affirmative Action & Diversity Program and the Asian Pacific American Council.

Chang is the author of "Thread of the Silkworm" and "The Rape of Nanking: The Forgotten Holocaust of World War II." A journalism graduate of the University of Illinois at Urbana, she worked as a reporter for the Associated Press and *Chicago Tribune* before winning a graduate fellowship to the writing seminars program at Johns Hopkins University.

The critically acclaimed "Thread of the Silkworm" narrates the true story of Tsien Hsue-shen and how the U.S. government falsely accused the Chinese rocket scientist of membership in the Communist Party, subjected him to five years of harassment and virtual house arrest and then deported him to China, only to watch him become the father of the Chinese missile program.

"The Rape of Nanking: The Forgotten Holocaust of World War II," describes the slaughter, rape and torture of more than 300,000 Chinese civilians by



Iris Chang

Japanese soldiers in the capital of China. The book was an international bestseller, remained on *The New York Times* bestseller list for 10 months and was cited

by Bookman Review Syndicate as one of the best books of 1997. It was also excerpted by *Newsweek* magazine and featured by *The New York Times*, *Washington Post*, *Wall Street Journal*, "Nightline," "Good Morning America," and "Jim Lehrer Newshour."

Iris Chang is a winner of the John D. and Catherine T. MacArthur Foundation's Program on Peace and International Cooperation Award, the 1998 OCAW National Woman of the Year award, and major grants from the National Science Foundation, Pacific Cultural Foundation and Harry Truman library. She is currently at work on a third book, "The Chinese in America: A Narrative History."

Also during the month, "Growing Up Asian In America 2000," a collection of essays and art from several thousand Asian American children in the Bay Area, will be on display through May 25 in the TID Main Library.

The Asian Pacific Fund and KPIX TV sponsored the contest. Lab employees contribute to the Asian Pacific Fund through the HOME Campaign. Stephanie Shang, a TID writer, judged the writing competition in 2000 and TID Department Head Judy Lussie judged the art competition held in 1999.

## Lab TV broadcasts CAPS & W87 ceremonies

The recent ceremonies to honor the certification of the W87 Life Extension Project and the Counterproliferation Analysis and Planning System (CAPS) will be broadcast on Lab TV.

Both ceremonies, held in mid-April at the Lab, featured accolades from Gen. John Gordon, the administrator of the National Nuclear Security Administration, and Adm. Richard Mies, commander in chief of the U.S. Strategic Command.

The W87 ceremony will be broadcast



Gen. John Gordon

Tuesday, May 8, and Thursday, May 10, at 10 a.m. and 2 p.m. The CAPS ceremony will be broadcast Tuesday, May 15, and Thursday, May 17, at 10:30 a.m. and 2:30 p.m. All broadcasts will be carried on Lab TV Channel 4.

Adm. Mies has called the W87 Life Extension the "first real test of stockpile stewardship." The project marked the first certification of a ward without testing.

The CAPS ceremony honored the team behind the Lab's versatile and powerful tool for analyzing proliferation activities of foreign countries. Drawing on information from multiple sources, CAPS can model various processes — chemical, biological, metallurgical —

that proliferants use to build weapons of mass destruction and delivery systems

## A view of the world from a deaf person's perspective

Marlon Kuntze will present "See Others Though Multiple Eyes," a presentation from a deaf person's perspective on Wednesday, May 16. The talk takes place at noon in the Bldg. 361 auditorium and is a part of Deaf Awareness Week, sponsored by the Affirmative Action & Diversity Program.

Kuntze will share his understanding of how deaf people see themselves and compare that view with how the hearing majority perceives deaf individuals.

Kuntze is well-known in the deaf community for his knowledge and skill in sharing the history of American deaf culture. He is currently a doctoral candidate at Stanford University researching language and literacy development in a bilingual context.

In addition to his studies at Stanford,



Marlon Kuntze

Kuntze teaches linguistics and deaf culture at Vista College in Berkeley. He is affiliated with the Berkeley Laboratory on Psycholinguistics of American Sign Language and Gallaudet University's "Signs of Literacy" project, and is a professional member of the American Education Research Association.

As part of its Deaf Awareness Week (May 14-18), AADP will also offer a beginning sign language class. The first class begins Tuesday, May 15 and meets every Tuesday and Thursday until June 14. Classes will be held from noon-1 p.m. in Bldg. 571, room 2000 (bring

your lunch). Classes are free; no registration is necessary. For more information, call Carol Sandoli, 2-9543.



## Betrayed Allegiance, Broken Heart: The Clayton Lonetree Affair

A U.S. Marine sergeant stationed at the U.S. Embassy in Moscow receives the standard warning that foreign intelligence services use locals to bait U.S. personnel. Nevertheless, the KGB spots and assesses this young man. The Marine ignores the warning and falls for an attractive foreign service national who is employed by the U.S. Embassy — and also by the KGB.



Clayton Lonetree

The story of Clayton Lonetree is a classic study of how some foreign intelligence services develop and recruit Americans. Lonetree's experience serves as a warning that local employees working at or near U.S. embassies and other installations, and at conferences and meetings as well, may be directly connected to the host country's intelligence service.

**A presentation by Ken Schiffer,  
Senior Counterintelligence Officer,  
Los Alamos National Laboratory**

**Thursday, May 17,  
Bldg. 123 Auditorium,  
10 a.m.**

Unclassified  
All Laboratory employees and contractors are invited to attend. This program will be cablecast on Lab channel 2. Videotapes will be available from the SAFE Office, ext. 2-5557.

**Security Awareness for Employees**




NEWS YOU CAN USE

Lawrence Livermore National Laboratory

# JOB FAIR

Engineers  
Technicians  
Machinists  
Computer Scientists  
Optics Specialists



May 15, 2001, 3-8 pm

Shrine Event Center  
170 Lindbergh Avenue, Livermore Ca.  
For more information, visit: [www.llnl.gov](http://www.llnl.gov)  
U.S. citizenship required on most positions

Annual trade show returns May 10

The sixth annual UniCard Vendor Symposium and Trade Show returns to the Lab on Thursday, May 10.

The UniCard Symposium is held each year to instruct new vendors on how to do business with the Laboratory and to present new information to existing vendors currently accepting UniCard to order goods and services. During the symposium, the top seven vendors, as voted by the Lab's TRR community, will be presented special awards for providing outstanding service to the Laboratory during the last fiscal year.

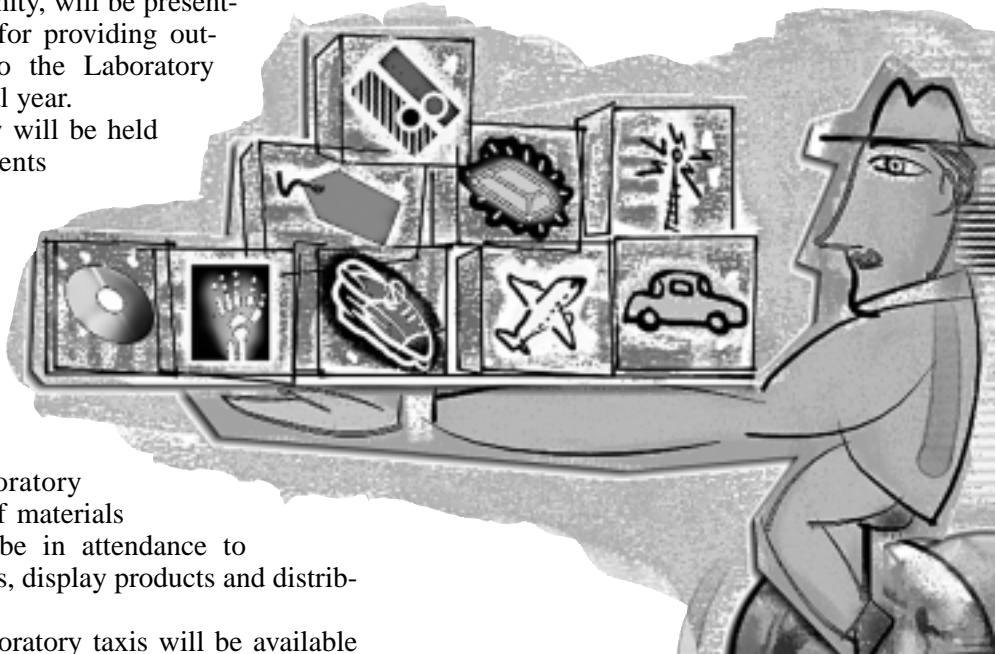
The trade show will be held in several large tents erected in the West parking lot (Z-1) near Bldg. 111 and is open to all employees from noon to 3:30 p.m. Over 200 merchants that accept the UniCard and provide the Laboratory with a vast array of materials and services will be in attendance to meet new customers, display products and distribute catalogs.

Additional Laboratory taxis will be available

"on call" during the lunch hour and the afternoon to transport employees to and from the fair. Employees are encouraged to use the taxis rather than drive since parking will be at a premium.

Eurest Dining Services will offer a special barbecue lunch available for purchase.

For more information, call event coordinators Annette Moyle at 2-6839 or Jim Jellison at 3-5527.



Technical Meeting Calendar

Friday  
4

**H DIVISION**  
"Femtosecond Structural Changes in Solids and Clusters," by Martin Garcia, Institute for Theoretical Physics, Freie Universit at Berlin, Germany. 10 a.m., Bldg. 319, room 205 (uncleared area). Contacts: Giulia Galli, 3-4223, or Darlene Klein, 4-4844.

**INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS**  
"The Internal Structure of the Sun and Helioseismology," by Joyce Guzik, Los Alamos National Laboratory. Noon, Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
"Recent Advances in Direct Numerical Simulations (DNS) of Turbulent Shear Flows Laden with Particles (Droplets or Bubbles)," by Said Elghobashi, University of California, Irvine. 2 p.m., Bldg. 451, room 1025 (uncleared area). Contacts: David Keyes, 2-1325, or Leslie Bills, 3-8927.

Monday  
7  
**MATERIALS SCIENCE & TECHNOLOGY**  
"Atomistic Modeling of the Amorphization of Silicon," by George Gilmer, Bell Labs. 10:30 a.m., Bldg. 151, room 1209 (uncleared area). Please note new date, time & location. Contacts: Andrew Quong, 2-5641, or Linda Jones, 3-8839.

**H DIVISION**  
"A Mad Cow that Laid a Golden Egg," by Alex Slepoy, UC Davis. 10 a.m., Bldg. 319,

room 205, (uncleared area). Contacts: Robert Rudd, 2-4292, or Darlene Klein, . 4-4844.

**UC DAVIS, DEPARTMENT OF APPLIED SCIENCE**  
"On the Physics of Optical Damage," by A. Rubenchik, UC Davis. 4 p.m., Bldg. 661, room 7 (open area). Refreshments served at 3:30 p.m. for a "meet-the-speaker" session before seminar and at 5 p.m. after. Contact: Estelle Miller, 2-9787.

Tuesday  
8  
**H DIVISION**  
"Path Integral Monte Carlo Simulation of Superfluid Helium Droplets" by Erik Draeger, University of Illinois, Urbana. 10 a.m., Bldg. 319, room 205 (uncleared area). Contacts: Phil Sterne, 2-2510, or Darlene Klein, 4-4844.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
Two talks, entitled "Numerical Simulation in Science and Engineering," by Gabriel Wittum, University of Heidelberg; and "Low Machnumber Compressible Flow Simulations," by Achim Gordner, University of Heidelberg. 10 a.m., Bldg. 451, room 1025. Contacts: Rob Falgout, 2-4377, or Leslie Bills, 3-8927.

Wednesday  
9  
**ASCI INSTITUTE FOR TERASCALE SIMULATION**  
"Information Security: The Road Ahead," by Eugene Spafford, Purdue University. 3:45 p.m., Bldg. 543 auditorium. (Please note change of location; all visitors must be badged). Contacts: David Keyes, 2-1325, or Terry Garrigan, 3-6209.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
"Parallel Adaptive Multigrid Methods with Application to LES," by Stefan Lang and Sandra Nagele, University

of Heidelberg. 10 am, Bldg. 451, room 1025. Contacts: Rob Falgout, 2-4377, or Leslie Bills, 3-8927.

Friday  
11  
**INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS**  
"Extrasolar Planet Candidates: A Review of the Evidence," by David C. Black, Universities Space Research Association. Noon, Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621.

**MATERIALS SCIENCE & TECHNOLOGY**  
An overview of recent work in chemical and materials synthesis, by Glenn Fox. 3:30 p.m. Bldg. 235, room 1090 (uncleared area). Coffee and cookies will be served at 3:20 p.m. Contact: Thomas E. Felter, 2-8012.

**INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH**  
"Approximate Query Answering Using Wavelets," by Rajeev Rastogi, Lucent Technologies. 10 a.m., Bldg. 451, room 1025. Contacts: Ghaleb Abdulla, 3-5947, or Leslie Bills, 3-8927.

Thursday  
17  
**SECURITY AWARENESS FOR EMPLOYEES PROGRAM**  
"Betrayed Allegiance, Broken Heart: The Clayton Lonetree Affair," by Ken Schiffer, Los Alamos National Laboratory. 10 a.m., B-123 Main Auditorium, Unclassified. Contact: Suzanne Stout, 2-5557.

The deadline for the next Technical Meeting Calendar is noon, Wednesday, May 9.

Send your input to [tmc-submit@llnl.gov](mailto:tmc-submit@llnl.gov).

## NEWS OF NOTE



# Web must continue to cast a collaborative net

By Sheri Byrd

NEWSLINE STAFF WRITER

"The Internet," said Cisco Systems Senior Vice President Howard Charney, "is changing the way we work, live, play and learn."

Charney spoke April 25 to a standing-room-only crowd in the Bldg 123 auditorium. As senior vice president at Cisco Systems, he is responsible for communicating Cisco's strategy and vision and helping corporations and governments worldwide understand how the Internet can be used to build a competitive advantage in the new Internet economy.

After a splashy introduction video in which a continuing chain of people interact over the internet, Charney set out to tell assembled Lab personnel how emerging internet technology will impact LLNL's research and the way the Lab conducts business.

"One billion people will be on the Internet by 2005," Charney predicted. Even now, he said, the World Wide Web grows by 7.3 million Web pages per day.

Charney holds B.S. and M.S. degrees in mechanical engineering from MIT, and an M.B.A. and J.D. from Santa Clara University. He is a member of the State Bar of California, the Federal Bar and is a licensed patent attorney.

His focus for the talk, from his Cisco point of view, was on Internet technology increasing business productivity.

"Productivity increases in four stages through the Internet," he explained, "e-mail, information, interaction and collaboration."

Currently, Cisco estimates that e-mail saves organizations about \$9,000 per employee per year.

In the second stage of Internet productivity, orga-



Howard Charney

nizations present only information via the Web. As examples, Charney pointed to weather Web sites, e-magazines and even LLNL's own public site.

In the third stage — interactivity — organizations provide e-commerce and e-service, such as ordering event tickets or prescriptions.

"This is where we close the customer-service loop," he said, in the form of live "voice-over-IP" customer service for any Web site.

At this point in the presentation, Charney turned to the view screen, which displayed a shopping Web site for children's gifts. In the upper right hand corner, a bubble appeared

with the smiling face of a customer service representative, speaking personally and directly to Charney. From the "cookie" on his Web browser, she was able to access his past ordering information, including credit card, shipping address and items ordered.

This sort of one-on-one customer service through the Internet, Charney believes, will help overcome the current trend of two thirds of all Internet customers abandoning their shopping baskets before closing a sale.

"But it is in stage 4 — collaboration," he said, "that organizations can gain the most productivity from the Internet. In the e-marketplace, supply chains are being replaced by supply networks."

"Education and the Internet are the fundamental equalizers in life," he continued. "And they come together in e-learning."

Online college courses of the future, he predicted, will be designed by "prescriptive learning — adaptive course content to personal needs."

Such customization will be necessary, he continued, because of the huge increase in the amount of information available through the internet. "More

information has been produced in the last 30 years than in the previous 5,000 years."

As a basic building block to such an e-world as Cisco dreams of, Charney said broad band connections are crucial. "The goal is a single (broadband) network to carry voice, data and video. Such a network would give people 'instant Internet' connections. That is, access to the Internet anytime, anywhere, on any device."

A further key to building the instant Internet will be wireless LANs, like those currently in place locally within the Microsoft and University of North Carolina at Chapel Hill campuses.

"This is a good solution for older buildings that would otherwise require total rewiring," Charney said.

Another up-and-coming broadband solution is the long reach ethernet, which will be able to provide information at speeds of between 5 to 15 megabytes per second on existing telephone lines.

With all these emerging solutions, Cisco is now concentrating on the development of "unified messaging," receiving voice, fax and e-mail all from the same source.

"This just makes so much sense," Charney declared. "It leads to an overall unified communications environment."

With this technology, business workers could receive all types of messages in print on their handheld device, or in audio form through a hands-free wireless cell phone, which would also recognize voice-activated commands for complete interaction. "It could even translate messages into other languages if necessary," he said.

All this combination of technology would save the typical business professional an estimated 30 minutes per day. "And that," said Charney, "is a huge number."

He concluded the talk with two questions to the Lab. "How can Lawrence Livermore National Laboratory improve its results with Web-based collaborations and e-learning?" and Cisco's trademark question to the world, "Are you ready?"

## ASCI lecture series to explore bumpy road to information security

Melissa. The I LOVE YOU virus. Web page defacement. Denial-of-service against e-commerce sites. Theft of laptops from the State Department. Information Warfare. Y2K. Napster. Hacking into Microsoft's network. Theft of information at the World Economic Forum. Fraudulent certificates from Verisign.

It is no longer possible to avoid stories of information loss, fraud and compromise. Open any paper or magazine, or listen to the news (online, as well as in the standard media) and stories relating to information security are sure to be present.

So, what is the current state of information security? Are things getting better, or are they getting worse? And what are the challenges we are likely to see in the near future?

Eugene Spafford of Purdue University will discuss these questions when he presents "Information Security: The Road Ahead," at 3:45 p.m. Wednesday, May 9 in the Bldg. 543 auditorium. Spafford's talk is the eighth in a series of lectures sponsored by the ASCI Institute for Terascale Simulation.

This talk will present some highlights of what is happening in information security, and what is yet to happen. Discussion will also include the nature of infosec-related challenges ahead — and few of them are based solely in technology.

Spafford is a professor of computer sciences at Purdue University, a professor of philosophy, and is director of the Center for Education Research Information Assurance and Security. CERIAS is a



campus-wide multi-disciplinary center, with a broadly focused mission to explore issues related to protecting information and information resources.

Spafford has written extensively about information security, software engineering and professional ethics. He has published more than 100 articles and reports, has written or contributed to more than a dozen books, and he serves on the editorial boards of most major infosec-related journals.

Spafford is a fellow of the ACM, the AAAS, IEEE, and a charter recipient of the Computer Society's Golden Core award. Among his many

activities, he is chair of the ACM's U.S. Public Policy Committee, a member of the board of directors of the Computing Research Association, and a member of the U.S. Air Force Scientific Advisory Board. He was the 2000 recipient of the NIST/NCSC National Computer Systems Security Award, generally regarded as the field's most significant honor in information security research, and was named as one of the "Five Most Influential Leaders in Information Security" by the readers and editors of *Information Security* in 1999. In 2001, he was named as one of the recipients of the "Charles B. Murphy" award, Purdue University's highest award for outstanding undergraduate teaching.

The ASCI Institute for Terascale Simulation Lecture Series was established to enrich the intellectual atmosphere of LLNL's large simulation community through the visits of leaders throughout the diverse areas of computation that undergird simulation. Simulation has become a crucial third mode of scientific investigation and engineering design, along with theory and experiment, and has become especially important to the Department of Energy under the Accelerated Strategic Computing Initiative, for fundamental scientific progress and technical decision support. ITS lectures are designed to appeal to a broad technical audience.

For more information, contact David Keyes, 2-1325, or Terry Garrigan, 3-6209.



# CLASSIFIED ADS

See complete classified ad listings at  
<https://www-ais.lnl.gov/newsline/ads/>

**AUTOMOBILES**

1990 - 4Runner, new bridgestone tires,new engine, AC,PS,PW,TW,CC,SR,TP,AW, bike rack,10 disc CD, suggested retail \$9,900, asking \$7,400. 925-803-9928

1990 - Toyota Corolla 2dr.5-speed AM/FM cass.in good condition, low mileage (77,000). \$4200 obo. 925-455-5323

1993 - HONDA Accord EX 4 doors, AC, PW, PL, AT, ABS, CD, 140k miles, Ask \$6000. OBO 925-449-3295

1997 - Chrylser Town & Country (LXi) Minivan 70K miles, has many options, excellent condition asking 15,200 408-897-3031

1997 - Honda Civic CX hatch-back, 5spd, red/gray, 64k miles, A/C, security, exc condition, dealer maintd, \$8000 obo. 925-443-6739

2000 - Ford Contour SE V6 5k miles with bal of 3 year warranty AT.CC.AC.PW.PL Asking 14K 925-606-9847

1994 - Jeep Wrangler hdp; excellent condition; low mileage (53K); new tires, roll bar w/audio speaker; \$11K 925-932-7511

1993 - Mustang LX Convertible2D: 87Kmi, Auto4cyl, AC/Cruise, AM/FM Cass, PW Steering/Windows/Doors, RearSpoiler, AlloyWheels. \$5,800OBO Great Commuter Car! 925-786-1900

1996 - Ford Bronco XLT, wht,ltr,tow pkg,AC/AT, mags, clean, ext cond.,92K, lv. mess, 12K or make offer 925-447-7780

1988 - Acura Legend, 262k miles but well maintained and in good shape inside and out. \$1000. 925-447-6110

1988 - Camaro, V8/305, AT, AC, cruise, 60K on engine, fairly new alternator and battery, original owner \$2500 925-447-8613

1985 - Mercedes 190E four door power windows,seats locks, alarm custom wheels 125,000 miles good gas milage. \$4500 925-371-1465

1992 - Honda Accord LX Station Wagon, Orig Owner, well maint., excellent shape, Kelley BB \$7200,asking \$6500 OBO 925-447-3618

1995 - VW Golf, 2 dr, black, man. 5 spd, custom premium sound, clean,130k, \$6500 OBO 925-960-0632

1993 - Chevy 3/4T 4X4 , 350,5spd,136000 mi.,loaded, green, \$8500.00 925-454-1749

1989 - Jaguar XJ6. 47,000 miles. White with blue interior. New CD stereo. Excellent condition! \$9500. 925-443-5568

1970 - Olds Cutlass Supreme, 59K original miles. New brakes/battery. Appraised at Kassabian Motors in top 5%. 350/310 hp V8/auto. Excel Cond!! \$6400/obo 925-833-6076

1996 - Saturn GL 4-door 70K miles, air, power, moonroof, manual, ABS & dual airbags, great shape.\$6500. 925-443-1113

1994 - Isuzu Rodeo, Auto.,A/C,PS,Power Windows/Locks Cruise Control, AM/FM cassette;85K Highway miles; Clean, Good running condition. Asking \$7000/BO. 510-471-5740

1995 - Mustang GT Convertable, Black w/ Tan Top, Loaded,Leather, alarm, 56K mi, \$12,900 or BO 209-823-5550

1995 - Ford F-150 Eddie Bauer 4x4, 6 inch lift, 35 inch tires, Excellent condition, 71,000 miles. \$15,500 obo 925-443-8569

2000 - VW New Beetle GLS. Silver/Black. 5 spd, power moon-roof, alloy wheels, 6 CD changer. 25K hwy miles. 31 MPG. \$17,250. Perfect! 510-836-2920

**AUTOMOBILE ACCESSORIES**

15x7 Mag wheels, four bolt, fit Mustang, others- only \$60 for 4. 925-447-7070

For 1988 Jeep Cherokee: complete shop manual set + electrical diagrams, \$50 OBO Full size spare tire 3/8 inch tread depth and blue cover \$20 OBO 925-443-9535

Car Ramps, 6500 lb. capacity, good for changing oil. 925-443-1279

Hub caps, Plymouth, 15 inch, set of three, \$50.00. 925-778-2699

Bedliner for 1999 or 2000 Toyota Tundra. Brand new. Bought camper shell.\$100 925-443-4639

Headlamp for T-Bird \$15.00 925-443-1547

4 jack stands for auto mechanics \$30, tuneup meter \$20 925-736-7799

**BICYCLES**

2000 Santa Cruz Heckler 20in - XT, Marzocchi Z1 BAM 5in travel & more - 25lb full suspension bike-perfect condition- New \$3200 Sell \$2000 925-687-0999

Womens 12 speed bike. Good condition. \$40 209-832-1321

Giant, Profile Two, Carbon Fiber, 53 cm, Shimano 105, exc. cond., \$600. 925-456-7577

Trailer bike to convert your bike to a tandem for you and your child. Like a Tagalong except 3 speeds and lightweight alloy \$100 415-928-4469

Cannondale T700 Touring Bike 53.3cm alum.frame, shimano components, new tires, exc. condition \$500 obo 707-645-8648

Huffy MT. Storm 26-inch 18-speed mountain bike, hardly used, like new, \$105. 925-454-9291

26 in. Mens 10 speed mountain bike,hardly used \$50.00 24 inch Boys mountain bike with 18 speed Shimadzu gears. \$50.00 925-866-1477

Men's mountain bike, new tires, excellent condition \$125 925-736-7799

Yakima roof racks, lockable Q towers, 58 in. bars, two bike mounts with hardware. \$100. 925-634-2701

**BOATS**

72 Glasspar 16ft w/65H merc & trailer, up to date tags. Runs great \$1200.00 or Best offer 925-449-1340

28ft. Owens, 351 Cleveland,Runs Great,90% Restored,Sleeps 4.\$8200. Located in Discovery Bay. 925-240-0648

1971 19ft. Johnson I/O 4 Cyclinder Chevy Omc Outdrive.

\$1100.00 Just Put In Outdrive. Runs Good. \$1700.00 Firm. Leave Message 925-240-7009

84 SeaKing 5HP 2 cycle motor \$250 OBO. 209-234-1366

8 foot fiberglass boat with 1.5 horsepower gas motor. \$75 925-294-9810

**CAMERAS**

Mamiya RB67 Pro S w/90mm lens, 120 back and polaroid back. \$1200. Tokina 300mm 2.8 for Nikon w/Nikon TC-14. \$1200. 209-823-8822

Nikon F underwater camera system; 3 bodies; 2 action finders; 55, 28, 18 mm lenses; 2 strobes; housing: complete package, \$2800. 925-443-4292

**ELECTRONIC EQUIPMENT**

RCA boom box, brand new (gift), with CD, radio, and cassette. \$45. 925-443-0743

Apple Macintosh Performa 6290 home computer with printer and ethernet card. \$100 or best offer. 925-447-2687

Cisco 2503 Routers(2) Ea. w/10BaseT adapter, 2 serial interfaces, BRI-ISDN & console ports. Serial crossover cable, CCNA book, will set-up.\$1750.00 925-443-7729

APC UPS surge prot/battery backup for computer/electronics. Perfect for all those blackouts this summer! Less than 6mo old. \$100. 925-443-6739

Mac 7300/200 160mb RAM, 2Gb Hd, Voodoo 3 16mb graphics card, 17 inch monitor, \$600/offer 209-576-0299

Macintosh Performa 6214 computer. Works great. Complete with monitor, keyboard, printer, modem, etc. \$275/offer. Call evenings or weekends. 209-836-0949

Alcatel 1000 External DSL Modem (Purchased for use with Pacific Bell DSL). \$75obo Peter 292-8762 home, 423-5230 work 925-292-8762

Compaq Presario system, AMD-233 MHz, 40MB/3GB, 40x CD-ROM, 14in monitor, Win95, \$175. 925-294-9022

HiEnd home theater system \$400; N64 game system+games \$250; Many LP records, cassette tapes, 4 track tapes & quad player , make offer 925-736-7799

Kenwood TS-820S transceiver, ext VFO-230, MC-50 desk mic, sold as set \$550. PRO-37 programmable handheld scanner, 30-960 MHz, almost new, \$80. 925-462-5202

PowerMac 4400/200, 20Gb HD, 96 Mb ram, external CD-R, external zip, 14 inch monitor. \$500, or \$400 without monitor. Great computer for young teen. 925-447-1833

Tokina AT-X 300mm 2.8 lens. Nikon mt. with Nikon TC-14 tele-converter and bogan Monopod. \$1500 209-823-8822

**GIVEAWAY**

Mac IIsi 5/80 with 13in. Sony Monitor, extended keyboard, personal laserwriter. 925-449-8567

About 36 cement pier blocks. These were used under a red-wood deck. Free - you haul. 925-

829-2848

Free-Basketball Pole, Hoop, Net & Adjustable Acrylic Backboard. Metal pole must be cemented into the ground. 925-829-2848

Hot tub - 5 person tub, shell in good condition. needs new pump and misc repairs. 209-824-1076

FREE hot tub! Electric Cal Spa, 8 foot, you haul away 925-455-8006

**HOUSEHOLD**

Kenmore 700 series extra capacity washer, works great, \$125.00 510-601-9244

Two Formica countertops with backsplash, approx. 22x46 each, one is dark green marble, one is pale azure matte finish 925-461-1641

Desk - 18x64x30. Dark Walnut. Heavy duty. 2 hanging folder and 4 regular drawers w/disappearing keyboard holder. \$40. Will add chair for \$10. 925-829-1352

Whirlpool Imperial Series super capacity almond washer and gas dryer. washer - 9 cycle 2 speed. Dryer - timed and sensor drying. \$400 OBO 925-443-9535

Queen size oak pier bed. w/ Serta Perfect sleeper w/PT, BXSP, Frm. \$650 925-373-7434

Freezer, 18cf upright, Coldspot 500. \$50.00 Typewriter, portable in case, Tower, \$15.00 Walker, folding, \$12.00 925-447-4841

Black Kitchen table w/tinted glass top & 4 chairs + 2 matching bar stools \$350 takes all! 510-573-3188

Lawn Mower, Sears 4HP 20 inch cut, rear bag. Needs minor tune up. \$25. 209-832-1321

Refrigerator/freezer, Maytag, white, excellent cond. \$200. Washer \$200, dryer \$150, both Whirlpool Gold, white, super capacity, handwash cycle. 925-443-6739

Refrigerator/Freezer, almond color. Runs well, in good condition. \$125. 925-447-2644

Lawnmover - only 1yr.old; runs great. \$45.00 925-240-0678

Bedroom set, girls, white Scandinavian style. Bed, dresser, desk, chair and nightstand. \$450. 925-947-6630

Furniture: Sofa(\$100), Oak Dresser w/mirror(\$125), Teakwood 3drawer dresser(\$15), desk & chair(\$10), Lazboy recliner(\$75) Nitestand(\$5) 925-447-5130

Entertainment center, bone white finish with glass doors, three piece excellent cond. \$300. Folding box desk \$150 925-371-1465

Cherry wood finish Simmons crib. \$200 415-928-4469

Dishwasher GE built-in \$50, Washer/Dryer Lady Kenmore \$100 for both, Washer GE \$75. Call after 6pm. 925-447-2359

Living rm furn. 2 yrs old, sofa,lv,cktl,2ends comfy sage green w/ multi color accent pillows Paid \$1100 sell for \$600. pict available 209-474-9118

Washing Machine (Gen Electric) with mini-basket, level control, Hot/cold water select, several washing modes. \$150. 925-449-3900

John Deere riding lawn mower

Model 68 in excellent condition. Takes 36 inch cut, run very well, includes bagger & new seat. 209-836-1506

GE electric oven/microwave comb. fits cabinet opening 24-3/4 x 41-1/4, self clean, 1989 model, black. \$50.00. 925-961-1658

Dining table 6 seater,cherry, 2 leaves, 2 armchairs,matching China and buffet, complete set \$1500 Oak look coffee table two end tables \$100 925-866-1477

Blue & white country plaid Sofa & Loveseat, 3yrs, \$450. Solid oak table, 2 leaves & 5 ladderback chairs, \$450. 925-294-9022

Refrigerator/freezer. Side-by-side. Ice-maker. Off-white. Runs good. \$135. 925-443-5213

Modern solid walnut desk (\$125), Sony 17in TV (\$100), Electrostatic room airpurifier, relief for allergy sufferers \$95 925-736-7799

Sony 5-disc carousel. Remote control and can open disc tray to exchange a disc while playing. Have orig. owners manual.\$75 925-443-9110

Oak Entertainment Center 5ft w. x 5ft-2in h. x 1ft-11in d. w/32in w. x 27-3/4in h. 22-1/2in d. TV opening w/doors, leaded glass \$250 obo 510-537-0698

7 piece girls bedroom set: White with gold trim. Desk, head-board/footboard, two dressers, vanity, matching chair, night-stand. Excellent cond. \$650 925-447-1697

Danish Modern bookcase, exc. condition, \$200 or trade for queen size mattress and springs. 925-447-4961

Cherrywood dining rm: hutch, table w/leaf, 6 chairs. Used for 6 months-\$900/obo King black iron head/footboard, 1 yr. old - \$100/obo 925-373-3525

Refrigerator (2) Older models, freezer on top, fair condition, they both work. \$50.00 each. Call after 4:30 pm. 925-449-0430

Master suite: Cal King head board, 2 night stands, chest, dresser w/mirror \$875 OBO 209-824-8750

All great condition: Large Capacity Dryer-\$75;Semi-formal off-white living rm sofa & sofa chair \$250;off-white family rm sofa & loveseat \$300 209-983-0877

Entertainment Center, Dark Oak 54Lx24Wx48H with glass door for sterio, VCR and DVD. \$200s 925-443-3467

Queen size Hide-a-Bed. Good condition. \$125 209-239-2737

SOFA AND LOVESEAT. Only 10 months old, perfect condition. Attractive color and texture. Perfect match for light brown carpet color. Both for \$300/BO. 510-690-1258

**MISCELLANEOUS**

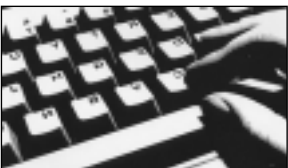
NEW,Makita 10-inch table saw-Model 2701X1 sales for \$330. plus tax. Will sell for only \$270.00-Call evenings after 6pm. 209-869-4900

Old Philco floor model radio; cabinet good but circuit needs repair. Make offer. 925-447-2687

UHF Outdoor Antenna. High gain 29 element, for fringe area. 84 inches. Used, good condition.

See complete classified ad listings at  
<https://www-ais.llnl.gov/newsline/ads/>

CLASSIFIED ADS



Best offer. 925-455-4970

Lawn mower, Scotts Classic Reel Mower, 21 inch, w/catcher. Like new. \$50. 925-443-0536

Garett's Metal Detector GTAX 1000 with instructional VCR tape find coins, gold, silver & jewelry asking \$300 925-606-9847

AGAPANTHUS: Lily of the Nile \$1.50 and \$2 ea, Society Garlic \$2 ea. 925-447-6192

Air Cond. 220 volt, window mount \$30/obo; Records about 100 & player-make offer 925-294-8401

Refrigerator 21.8 cu. ft. GE side by side \$150, Refrigerator Whirlpool 17.1 cu. ft. \$75. Call after 6pm. 925-447-2359

Wooden Swing Set with bridge, slide, picnic table, 2 swings, rope climber, monkey bars, ladder and fort. 6 years old. Make Offer 925-449-8841

Credit for LLESA dance class. Worth \$30, sell for \$20. 925-443-0743

Math Tutor Software. 6 CD set from Pre-Algebra to Calculus 1, including workbook. Hardly used. \$15 925-513-2784

Acura Legend taillight assembly from 884 car, left. \$35 925-447-7070

NAPCO Commercial burglar alarm control boxes, 3 available, make offer, Motorola Mobile (analog) phone+charger \$25 925-736-7799

98 DEGREES & BAHA Men -- Floor tickets @ Concord Pavilion - Sun May 6/01 ... Sec 1 Row EE. \$75/ticket obo. 925-548-4040

Tablesaw, 10-inch, Craftsman, has fence, miter, extensions, and stand. \$30.00. 925-447-6099

Drafting table. Tilts and elevates. Very sturdy. \$75.00 OBO. 925-456-3010

Linda Evans Fitness Center Contract (Pleasanton). Nine months left on contract. \$29.00 month, you take over contract. 925-454-9627

Bridal Gown/matching headpiece and veil/other accessories. Mon Cheri, Sz. 8, white. Asking \$500. 209-836-2511

4 scales and 2 cash registers used at fruitstand. Make offer. 209-824-8750

MUSIC INSTRUMENTS

Fender Delux 90 Guitar Amp included DOD grunge distortion pedal<1 year old. \$250.00 209-835-2416

PETS & SUPPLIES

All Purpose 16 inch English saddle with stirrups, leathers, pad and cover. Very nice condition. 925-449-8067

Looking for male dachshound mini (smoth hair) to breed with my female dachshound. Please call. 209-521-4846

Pyrenees/Maremma Livestock guardian puppies - male, shots. Very friendly! \$250 925-455-1392

Blue Front Amazon, lg. cage and all accessories. Talks. Sweet, but independent too. Going to school, cannot handle 2 birds any longer. \$600. 925-294-8632

Border Collie mix puppies. Seven weeks old. \$20 209-862-3458

Border Collie/Queensland Heeler mix, 1-1/2 yr. male, neutered/all shots, needs room to run and someone to play with. Good home only, small fee. 925-606-9129

RECREATION EQUIPMENT

Cessna Turbo 210, 1977, 20% share, King Radios, Autopilot, 2272 hrs. Based at LVK 925-443-8831

Ping Hoofer Golf Bag-blk like new \$100.00 or B/O 209-823-9607

Trailer hitch, hevi-duty w/2 in. square receiver, \$20.00; Ball hitch, 1-7/8 in. ball, for above, \$20.00; 5th wheel hitch, \$50.00. 925-447-4841

Gold Gym professional weight lifting bench, weights 320 lbs and leg lift attached, excellant condition, \$200 510-538-7444

1994 Waverunner. with trailer. Exc. cond., clean engine, current tags. \$3000 firm. 925-625-1239

1997 Coleman Cheyeane series tent trailer. Sleeps 8; thermastat heater; refer; front storage; awning; screened room; excellent cond. 209-239-4453

Mission inline hockey skates with Hi-Lo chassis. Relatively new condition. Size 11 \$75 415-928-4469

Ski, poles and boots (mens size 12) for sale. \$80.00 OBO 209-824-8750

Huffy Proteam 7-10 feet adjustable fully assembled composite board portablr basketball \$125 925-866-1477

Beginners' golf clubs set&bag \$45, Legos set for kids, many pieces and board \$45 925-736-7799

Yakima roof racks, lockable Q towers, 58 in. bars, two bike mounts with hardware. \$100. 925-634-2701

1985 Vacationeer 11 1/2 ft. truck camper. Fully self-contained. Excellent condition inside and out. Must see. \$4,500.00 firm. 925-456-3010

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at <http://www-r.llnl.gov/tsmp/> for more information

Manteca - Need 4th person, ride/drive. Leave Manteca 6:30AM, Leave LLNL 4:00PM. Opening June 1st. 209-823-5593, ext. 3-8539

Walnut Creek - Walnut Creek 14 passenger luxury vanpool has space available,quiet with 2 sleepers,3 readers,2 talkers,1 driver,8 to 4:45,ext.22805 925-945-4926, ext. 2-2805

Modesto - Vanpool needs one rider - \$115.00/month. Leave at 6:40 a.m. from Crossroads Mall at Carpenter and Kansas. Leave Lab at 4:45 p.m. 209-576-0217, ext. 2-7459

SERVICES

Give Mom candy and flowers all in one. Dream-ofs Candy Bouquet Creations. Custom orders available. 209-823-8803

FREE house cleaning...just kidding. I will clean your house once

or twice/month. Livermore or Tracy. Compensation based on size, kids and pets. 209-836-9082

Sprinkler repair & tree stump removal. FREE estimates 925-443-6010

Do you need electrical work? Residential specials. Call for an estimate. 925-373-3429

TUTORING in high school and college chemistry and math. 925-443-2095

Handyman services - have tools will travel. 925-449-0516

Home managing: house cleaning, laundry, shopping, errands, lite yard work, mail, petsitting. Additional services upon request. 925-443-3283

Headshot Photography for actors, entertainers, dancers & musicians - Livermore studio or location 925-449-0107

PARENTS troubled by TEEN behavior? What to do now, before too late? Free info on ToughLove, & Residential Treatment Facilities. (LLNL Meeting) 925-447-7070

Exterior Painting - Over 15 yrs experience. Free estimates and discount on paint. 925-447-5132

Roofing, 28 yrs experience, fully insured 925-454-9200

Lawn Aearting & Fertilizing Free Est. 925-939-7455

SHARED HOUSING

Livermore - One room available. Share 3 bedroom house with 2 others. Share bathroom with 1 other. \$600 per month plus 1/3 utilities (about \$100). 510-816-0514

Manteca - Furnished room in Rural area with full house priviledges for rent. \$300/250 dep. 209-823-0454

Modesto/Ceres border - roommate wanted: Move in betwn July 1st&15th, \$350.00/month +1/2 utilities, reas. house priv., separate bath, male pref. n/s. Pets negotiable. 209-522-4741

Byron - Two rooms for rent.\$850.00 per month includes utilities.Includes private bath. 925-980-5240

Modesto - Renter wanted, non-smoker, n/d, house privileges, w/d, garage parking, \$450. per month. 209-492-0270

TRUCKS & TRAILERS

1992 - Ford XLT 150 extcab Pup 6Cyl 5spd 2WD AC/PS/PW/PDL/Tilt/cruise, AM/FM St cass, ABS, slide rwin, shell/cap, cruise, tow Pkg Alloy wheels \$4500 209-544-2236

Truck cab air deflector, Trailer-Eze, \$25.00; 5th wheel hitch, \$50.00. 925-447-4841

1999 - Dodge Dakota Excab,4WD,V8,AT,tow pkg,bed liner, tonneau cover. power every thing.blu/ext. grey/int. perfect condition.\$17,995 obo. 925-600-7551

Car carrier, economy to full-size van and pickup, tie-down straps, ratchet winches, swivel bed and full fenders, incl light set, exc cond \$900 925-443-9235

1997 - GMC 1500 extended cab pickup. Automatic, loaded, 63K miles, new tires. Excellent condi-

tion inside and out. \$17,900 retail, asking \$16,500. 209-834-1801

Datsun pickup bed converted to a Utility trailer. \$250 925-443-1769

1997 - Toyota 4-Runner, 5 speed, 4WD, loaded with extras in ex. condition. Really looks and runs like new! \$17.5K or BO. 925-426-9886

1995 - GMC Z71 4X4 Extended Cab Pickup 350 V8 Automatic Camper Shell New Tires PW CC CD Excellent Condition \$15500 OBO 925-373-9016

1999 - Dodge Diesel pickup, Silver, 40K miles, fully loaded, with shell, 24 foot slide out 5th wheel, like new \$47,000.00. 209-892-3418

1993 - Dodge Dakota LE, club cab V8 2WD, AT, AC, PW, PDL, PS, CC, AM/FM cass, bed liner, new tires/brakes. \$6,500 209-823-1277

1997 - Ford f-150 ext-cab, 2wd, 3dr, v6-250hp, 5sp-man ac, 3600lbs trailer tow, ps, abs brakes, am/fm cass, bedliner, 60,000 miles, \$11,400 209-830-0728

1990 - Toyota 4-Runner Blue 2dr V6 4x4 cruise control,cassette,roof rack,good condition,new tires,no A/C,144,000 freeway miles,90-95 body style,\$7000 obo. 925-449-7664

1997 - Emerald green Dodge Ram 1500, short bed, club cab, bedliner, stepbars, tiedowns ~86K/mi KBB Retail \$14320 Asking 13000. 925-634-2798

1994 - Mazda B3000 Extended cab. Ex condition, A/C, A/T. \$6900 or B/O 209-836-3969

1972 - Dodge 3/4 ton, 400, auto, \$1,200.00 OBO. 925-456-3010

1995 - Motorhome-Thor Residency 36feet, Diesel Cummins. Excellent condition. Call for details. Can view at our home in Livermore. \$76,000.00. 925-449-0430

VACATION RENTALS

Apache Junction, Arizona - Winter playground for retirees. 5-Star park. RV space and park model available for 2001-2002 season. Close to pooa and rec center. Call 925-447-4841

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished, all amenities,Homeowners park w/Lake,tennis etc.,Enjoy Offseason!SPRING RATES! Reserve Now for Summer! 209-599-4644

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, ocean-side pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

Pinecrest - (Off Sonora Pass Road), 3 bdrm/2 bath, frplc w/wood, microwave, barbecue, pool table, large deck and view up No. Fork of Tuolumne, \$175/wknd. 925-449-5513

Puerto Vallarta, Mexico - 1 Bedroom luxury oceanfront condos w/all amenities. Gorgeous view, private beach, large pool. 209-832-4354

Sea Ranch - Oceanview home. No smoking. No pets. Adults only. 2BR(KQ)/2BA 1700sqft.

Hike. Bike. Whale watch. Kayak. Swim. Tide pool. 925-443-5086

Soda Springs/Donner Summit, Classic rustic A frame, 2BR/1BA+Loft, sleeps 8, Walk to Royal Gorge, 5 min to Sugar Bowl \$250 wknd 209-836-3481

Twain Harte - Fully furnished.2bdr 2full bath.Washer,dryer,microwave,cable TV,VCR,dishwasher and more.Close to Pinecrest Lake.\$150wknd \$300wk. 925-443-2808

HAENA, KAUAI - - Private house and/or studio on the scenic north coast near Hanalei Bay - great beaches, hiking, boating and golf. House-\$125/day, studio-\$75/day. 831-479-3441

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, ocean-side pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

WANTED

BMW motorcycle R-series 1970 thru 1978 reasonably priced. 209-832-5506

Looking for old moped that runs well, will pay cash. 925-455-0847

clean fill dirt 925-447-7780

Freelance/professional photographer for wedding in October. 925-447-2644

1989 Jeep Wrangler hardtop and doors. 209-952-5305

WANTED: Old stereo and music equipment. Amps,receivers, speakers. Etc. Working or not. 925-443-2954

Bar: Wet or dry, large enough for at least 3 people. Will pay fair price. Call after 5:00 PM. 925-454-0330

Computer games on 3.5-inch floppy for older Mac, for senior citizen. Bridge, solitaire, etc. Donna 925-600-0082

Wanted. Old Honda CB750 Motorcycle for restoration project. (Running or not) 925-449-5441

Looking to buy used precision/machining tools and roll away. 925-487-5985

House Sitting. 925-449-4326

Thomasville Stone Creek ladder-back side chairs, russet finish. 925-846-8264

Camper or Pop-up Trailer, Reasonable. 925-447-4961

Looking for a short-term sublet for a new lab employee for the first two weeks of June. 510-663-7403

Wanted: Moving boxes - cheap or free. 925-294-8401

Economy car 150000 or less miles good condition. 928-455-9342

VCR, working with at least 66 channels. Remote control desirable. Older model O.K. Will make offer, up to \$20.00 925-443-7729

Tickets for Athletics vs. Texas Rangers for June 22th, 23rd or 24th 2001. 925-447-5455

Runners needed for coed running club/team located in east bay area. Club focus is competition with a good balance of social activities. 925-449-8341



## THE BACK PAGE

### COOLING

*Continued from page 1*

a way to soak up carbon dioxide, a greenhouse gas, from the atmosphere. However, earlier studies demonstrate that growing dark forests could actually heat the earth's surface more because dark colors tend to absorb more sunlight, despite the uptake of carbon dioxide.

"The Earth's land surface has cooled by about 0.41 K (equal by about 3/4 of a degree Fahrenheit) due to the replacement of dark forests by lighter farms growing wheat, corn, etc.," said Caldeira, a climate model researcher who also is co-director for the Department of Energy's Center for Research on ocean carbon sequestration. "This is an example of inadvertent geoengineering — we changed the reflectivity of the earth and have probably caused a global cooling in the past. This is now probably being overwhelmed by our greenhouse gas emissions."

The research, published in the *Geophysical Research Letters*, also shows a slight increase

in the annual means of global and Northern Hemisphere sea ice volumes in association with the cooling. The simulated annual average cooling due to land-use change during this period is almost a half a degree Fahrenheit globally, 0.66 degrees F for the Northern Hemisphere and .74 degrees F over land.

In the simulations, land use data for 1000 AD uses potential natural vegetation, made up mainly of forests, while data for the 1900 AD period uses standard current vegetation data, which is a mix of forest and croplands, taken from the Community Climate Model developed at the National Center for Atmospheric Research. The greenhouse gas levels in both simulations are in concentrations taken at pre-industrial levels.

"The estimated temperature change in the continental United States as a result of change from forests to agriculture is up to a 2-degree Fahrenheit cooling," Caldeira said.

"So, when we talk about global warming, we can no longer take for granted that this global warming is starting from some natural climate state, undisturbed by human activities."

### FRAMEWORK

*Continued from page 1*

cooperation and openness from the DPRK are essential.

The 1994 Agreed Framework (AF) between the United States and the Democratic People's Republic of Korea (DPRK) has become the centerpiece of recent US efforts to reduce the threat of conflict on the Korean peninsula. Under the AF, the United States and its allies (mainly South Korea) will provide the DPRK with two large nuclear-power reactors and other benefits such as annual shipments of fuel oil for the generation of electricity until the nuclear-power reactors being built for that purpose are able to do so.

In exchange the DPRK will declare how much nuclear weapon-usable material it has produced; identify, freeze, and eventually dismantle specified facilities for producing this material; and remain a party to the nuclear Non-Proliferation Treaty (NPT) and allow the implementation of its safeguards agreement.

The AF is now being carried out according to a complex and currently delayed schedule. Fuel oil shipments have been provided to the DPRK, the site for the two nuclear-power reactors has largely been prepared, and construction has begun on some components. The DPRK, for its part, has declared some nuclear weapon-usable material and has identified and frozen some facilities for producing this mater-

ial.

As emphasized in President Bush's statement at the White House on March 7, 2001, verification is an essential part of any agreement with North Korea. How well can it be verified that the DPRK has no access to nuclear weapon-usable material? What is the potential impact of delays, disagreements, and lack of cooperation on verification? The United States and the international community must answer these questions if the nuclear-power reactor project is to proceed as planned.

The report analyzes in detail both the task of safeguarding the nuclear-power reactors to be provided and also that of dealing with known or suspected nuclear-materials production facilities in the DPRK. Scenarios governing both DPRK cooperation and possible non-cooperation, up to and including abrogation of the agreement are considered.

The challenges of verification examined in this report must be met if a necessary minimum of trust is to be established between the parties and the rewards of the agreement are to be realized. The authors believe that the challenges can be met under the conditions outlined in this report, but that special effort on all sides will be needed to meet them.

A copy of the report will soon be available from the Center for Global Security Research Web page at: <http://www.llnl.gov/nai/cgsrjd/cgsr.html>. A PDF version of the report can currently be downloaded from the CISAC's Website: <http://cisac.stanford.edu/news/pressrelease.html>

### POWELL

*Continued from page 1*

solid-state lasers for inertial confinement fusion, military applications and commercial utilization."

Ralph Jacobs of the Physics and Advanced Technologies Directorate sponsored Powell's fellowship candidacy, which received letters of support from Nobel Laureate Charles Townes, among others.

The society also has organized a Howard Powell Memorial Symposium on High Peak Power Laser Technology to take place May 7 at the society's Conference on Lasers and Electro-Optics in Baltimore.

A scholarship in Powell's name established earlier this year at the California Institute of Technology, where Powell earned his bachelor's degree in physics, also is being well funded, according to Powell's wife, Mary.

"Howard was very modest in talking about his achievements, so the recognition he continues to receive from his professional communi-

ty both surprises and delights me," said Mary Powell, Howard's wife of 33 years. "I'm really happy to see that he touched so many people all over the world."


She also wishes to thank the Laboratory community for all of its support following Howard's death.

"Experiencing the love and kindness of Howard's colleagues and coworkers certainly helped us during a difficult time," Powell said.

"There are many at the Lab whom I wish I could thank personally for all they've done, and for their friendship with Howard."

Powell came to the Lab in 1973 and went on to work on both Nova and National Ignition Facility laser projects, as well as the Petawatt, the world's most powerful laser at the time. He was founder and leader of the Laser Science and Technology Program, and at the time of his death was working with the NIF AD's office in planning strategic directions for laser science and technology.

Powell was a co-recipient of three R&D 100 Awards for laser research.



**JUNE 27, 2001**  
**LLNL POOL PICNIC AREA**  
**11:00 – 1:30**

**EXHIBITS ON FIREWORKS,  
 FIREARMS,  
 AND POWER TOOL SAFETY**


**INFO ON WATER SAFETY,  
 SAFETY AROUND DOGS,  
 BUG BITES, SUN PROTECTION**

**CHOLESTEROL CHECK,  
 HEIMLICH AND  
 RESUSCITATION DEMOS,  
 FREE MESSAGES**

**BIKE SAFETY CHECKS,  
 ELECTRICAL SAFETY,  
 FUN WITH (SAFE) SCIENCE**

**AND MORE!!**

**BBQ LUNCH AND  
 EGG ROLLS FOR SALE  
 FREE ICE CREAM  
 GIVEAWAYS**



**SEE YOU THERE!**



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